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Empowering front office employees with counseling affordances

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Abstract: Purpose – The purpose of this paper is to investigate the face-to-face citizen service encounter in public administrations' front offices, and present a novel qualification approach to empower service personnel on-the-job, and thereby deepen the knowledge on the role of information and communication technology for advancing governmental reforms. Design/methodology/approach – The presented study follows a design science research methodology, conducted in collaboration with the public administration of a major German city. Data were collected using multiple quantitative and qualitative methods, including questionnaires, semi-structured interviews and video analysis. Findings – A novel on-the-job qualification approach for empowering public employees in their job-related skills, building on the concept of affordances, is developed. Thereto, six design principles for equipping artifacts with counseling affordances are presented. Evaluations in real-world environments provide first evidence that “learning with counseling affordances” constitutes an effective qualification measure to initiate experiential learning on-the-job, helping employees in the resource-restricted work environment of public front offices to obtain the skills to provide superior advisory services. Research limitations/implications – The “learning with counseling affordances” approach was developed in collaboration with an individual major German city and the paper provides first evidence of its effectiveness and suitability. Hence, the study's insights should be approved by further research to strengthen generalizability. Originality/value – The paper highlights the previously neglected aspects of employee's skills and qualification for promoting governmental transformation. By highlighting the beneficial relationship between affordances and on-the-job learning, the paper provides novel insights on the role of information and communication technology to promote governmental transformation. **Keywords** Affordances, Design science, Learning on-the-job, Qualification Paper type Research paper

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EMPOWERING FRONT OFFICE EMPLOYEES WITH COUNSELING AFFORDANCES

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Purpose: Investigating the face-to-face citizen service encounter in public administrations' front offices, the paper presents a novel qualification approach to empower service personnel on-the-job, and thereby deepens the knowledge on the role of information and communication technology for advancing governmental reforms.

Design/methodology/approach: The presented study follows a design science research methodology, conducted in collaboration with the public administration of a major German city. Data was collected using multiple quantitative and qualitative methods including questionnaires, semi-structured interviews, and video analysis.

Findings: A novel on-the-job qualification approach for empowering public employees in their job-related skills, building on the concept of affordances, is developed. Thereto, six design principles for equipping artifacts with counseling affordances are presented. Evaluations in real-world environments provide first evidence that "learning with counseling affordances" constitutes an effective qualification measure to initiate experiential learning on-the-job, helping employees in the resource-restricted work environment of public front offices to obtain the skills to provide superior advisory services.

Research limitations/implications: The "learning with counseling affordances"-approach was developed in collaboration with an individual major German city and the paper provides first evidence of its effectiveness and suitability. Hence, the study's insights should be approved by further research to strengthen generalizability.

Originality/Value: The paper highlights the previously neglected aspects of employee's skills and qualification for promoting governmental transformation. By highlighting the beneficial relationship between affordances and on-the-job learning, the paper provides novel insights on the role of information and communication technology to promote governmental transformation.

1 INTRODUCTION

An increasing number of organizations seek to distinguish themselves by offering superior service. A critical point is the face-to-face *service encounter*, where service personnel advise clients. How can service

personnel be qualified to provide sound customer advisory services? How can they learn to make best use of modern technologies to create a unique customer experience? Focusing on the public sector, different researchers showed that front office employees lack the necessary skills to provide the desired level of citizen advisory services (cf. Andersen, 2006; Bretscher, 2009; Giesbrecht et al., 2011; Hielscher and Ochs, 2009; Schwabe, 2011). Today, cities increase their efforts to bind their citizens through improved service (Accenture, 2005). However, often, they rely on service personnel's natural talent, which results in a large variance of service quality. These service personnel face constantly altering and expanding service catalogues, and the introduction of new information technologies. Accordingly, lifelong qualification is essential. But systematic training is often regarded as too expensive and – if given – service personnel struggle transferring the knowledge to their workplace. And while training by peers, e.g., showing or mentoring, has some value in transferring established knowledge, it is ill-suited for learning novel counseling approaches.

We present a novel approach to these issues. We build on the concept of educational affordances (cf. Bower, 2008; Kirschner, 2002), known from e-learning and educational research and applied in various educational contexts, like e.g. classrooms or self-directed learning. Using educational affordances in such purely educational context turned out to be effective in guiding learners in their learning behaviors toward educational objectives. We want to explore whether the concept of educational affordances could successfully be applied in front office work environments. We propose to offer front office employees “counseling affordances”, integrated into their workplaces, using suitably designed IT artifacts. In doing so, we want to answer the research question (**RQ**):

Can appropriately designed educational affordances help initiating effective learning on-the-job in the work environment of government front offices? And what is an appropriate design?

Therewith, we want to show how front office employees could be empowered to become and act as skilled consultants on-the-job, and how public administrations can transform their employees' workplaces in effective learning environments by means of suitable IT-support. In the remainder of the paper, we use the terms “front office employees” and “consultants” both to describe the same person, but use “front office employees” for describing employees without specific advisory-related skills (before “working with counseling affordances”) and “consultants” for employees now with improved advisory-related skills (after “working with counseling affordances”).

2 BACKGROUND AND RELATED WORK

2.1 Face-to-face advisory service encounters and the skills employees need

Face-to face encounters between employees and customers are central to the delivery of many organizations' services. In these service encounters, front-line personnel need to provide services to standards that meet the organization's demands as well as to fulfill the customers' high expectations. These aspects are

addressed in service marketing literature focusing on service quality and customer satisfaction (e.g., Davidow, 2003; Mouawad and Kleiner, 1996; Parasuraman et al., 1988). Service personnel need to master a multitude of skills to provide comprehensive, sound advice: customers not only expect employees to conduct transactions, e.g., to book a flight in a travel agency. They seek to holistically enhance their actual social situation and thus have complex information needs. In these situations, service personnel must become consultants, guiding their clients through a structured problem-solving process (e.g. Giesbrecht et al., 2011; Mutzeck, 2008; Schenk and Schwabe, 2011; Schmidt-Rauch and Nussbaumer, 2011; Simon et al., 1987): In the initial problem-elicitation phase, they need to explore clients' problems and needs in order to create a thorough understanding of the client's situation. In the subsequent solution-finding phase, consultants need to present possible solutions to their clients, while using available information resources. Finally, they need to enable the clients to make an informed decision on which solution suits them most. Therefore, they need to constantly maintain close relationships with their clients, making them co-creators of the advisory service's product. These basic areas, in which consultants should master specific skills strongly correspond to those in the research literature on group moderation or facilitation (cf. Bostrom et al., 1993; Briggs et al., 2009; Briggs and de Vreede, 2011; Clawson et al., 1993; Hayne, 1999; Kolfshoten et al., 2006; Schwabe, 1995): a) guide clients through a structured process, and b) establish and sustain close relationships with clients, while c) applying available tools and information sources to support the various tasks. Further details on these facilitation skills are described in Giesbrecht et al. (2014). Thus, to provide sound advice to and create a corresponding service experience for customers, service personnel should act as facilitators of the advisory service encounter.

In eGovernment research, researchers discussed intensively how to improve citizen service provision with information and communication technologies (ICT). They present the effects of introducing ICT on service provision (e.g., Danziger and Andersen, 2002; Davison et al., 2005; Lenk, 2002) and the effects on the competencies, the organization requires (e.g., Lenk and Klee-Kruse, 2000; Schuppan, 2010). Furthermore, they measure current services' effectiveness (e.g., Torres et al., 2005) and propose changing citizen service paradigm (e.g., Denhardt and Denhardt, 2000). However, the larger part of current research studies take on a organizational perspective when discussing about government front offices and provide only little (if any) insight on the work practices of the individual public employees. Research studies providing deep insights on front office employees with their work practices are scarce (e.g., Hielscher and Ochs, 2009; Valenduc et al., 2007). Deepening our understanding regarding employees' work practices and how to increase it is essential: Employees in government front offices, understandably, have large influence on the quality of provided advisory services. Furthermore, they can influence success or failure of implemented eGovernment initiatives substantially, as their performance is crucial to bring the value of corresponding public service modernization to the citizens.

2.2 Qualifying service personnel on-the-job

Professional knowledge has a large and important tacit dimension (Eraut, 2000). This “know-how” knowledge must be effectively transferred to employees in order to empower them in their work environments. Here, on-the-job training is frequently superior to off-the-job measures, since it is easier to apply the gained knowledge to the personal work situation. Learning from others is one of the most frequently applied methods of learning in the workplace (Eraut, 2004; Skule, 2004). Organizations use peer-to-peer methods like shadowing, apprenticeship, mentoring, coaching, or creating informal communities of practice (cf. Eraut, 2007; Guile and Griffiths, 2001; Skule, 2004) to qualify their employees. They want to shorten the “fit for work”-time and to ensure that employees acquire all skills and explicit or tacit knowledge necessary to provide sound customer services. However, these homegrown qualification approaches have significant disadvantages: Employees mostly learn from their senior colleagues and, therewith, merely knowledge and skills that are part of current work practices. We argue that novel advisory approaches comprising novel skills can hardly be transmitted this way. Furthermore, the differing didactic capabilities of these “teachers” as well as their varying work experiences and educational backgrounds can strongly affect knowledge exchange. Ultimately, the resulting competences of employees can vary greatly.

A number of researchers have emphasized the importance of providing employees, especially in knowledge-intensive jobs with suitable and effective learning opportunities. Organizations need to increase opportunities for learning at work (Ellström, 2001; Skule, 2004). In this context, applying suitably designed IT has much potential to help transforming employees’ work environments into learning environments (Billett, 2004). However, organizations frequently miss to unfold novel IT means to increase efficiency and productivity (Danziger and Andersen, 2002). Young (2003) argues that IT should be used as “cognitive tools and constructivist environments” where employees can learn and enhance their work-related skills. Whereas these researchers emphasize the necessity of providing effective learning opportunities at work, they rarely discuss how organizations can provide their employees with suitable on-the-job learning opportunities transforming their workplaces into actual learning environments.

Current research literature mostly offers and discusses experience-based approaches to develop skills in the workplace (also referred to as *experiential learning*) (e.g., Andresen et al., 2000; Kolb, 1984). These are well suited to facilitate the transfer of tacit knowledge, and are therefore broadly used in work contexts. Hansen et al. (1999) as well as Smith (2001), have shown, for instance, how employees use “hands-on” measures to convey their tacit knowledge. Eraut (2007) provides a comprehensive analysis of current on-the-job qualification measures, focusing on explicit as well as tacit knowledge transfer between peers. In line with these research findings, experiential learning constitutes a suitable method to qualify service personnel. Kolb pointed out that “knowledge results from a combination of grasping and transforming experience” (Kolb, 1984, p. 41). In his experiential learning concept, learners need to go through a distinct learn-

ing cycle of four steps to acquire new knowledge and skills. They should: 1) be enabled to actively experiment, 2) make concrete experiences, 3) reflect on these experiences, and 4) abstract and conceptualize new knowledge. Accordingly, this experiential learning cycle needs to be initiated at some point in on-the-job qualification efforts. We use the experiential learning cycle from Kolb (Kolb, 1984), since it is widely used in multiple studies investigating learning in the workplace. Other experience-based learning approaches with similar learning cycles – for instance, expansive learning (Engelström, 1987) – may also be possible approaches.

Our proposed design solution is based on the notion of affordances. *Affordances* describe the action possibilities provided by artifact's characteristics to its users that emerge at the time of interaction (Gibson, 1977; Jones, 2003; Stoffregen, 2003), for instance, when using a jug, its handle suggests to a user to lift it rather than push it. Hence, affordances suggest following certain behaviors or modes of usage. Even more, users are able to directly perceive an artifact's affordance without additional cognitive effort (Fayard and Weeks, 2007; Zillien, 2008). In the context of IT-supported learning, different researchers have shown that corresponding artifacts have large potential to function as instructional systems, engaging learners in critical thinking and thus promote learning (Jonassen, 1999; Jonassen et al., 1998; Young, 2003). Thus, we argue that artifacts, which provide educational affordances, have the potential to help start experiential learning cycles. The useful properties of affordances to guide individuals in their learning behaviors are also described by a number of researchers. They have identified learning affordances for particular technologies, for instance, 3-D virtual environments (Dalgarno and Lee, 2010), PDAs (Churchill and Churchill, 2008; Lai et al., 2007), or blogs (Robertson, 2011). Dalgarno and Lee (2010) describe the technology's use to "facilitate experiential learning tasks that would be impractical or impossible to undertake in the real world" (Dalgarno and Lee, 2010, p. 19), fostering intrinsic motivation and engagement. However, current research rarely provides insights on design and application of educational affordances in actual work environments, especially work environments, where in addition to learning new knowledge and skills, i) learners should perform in their jobs, and ii) where non-learners (i.e. clients) are concurrently present. Accordingly, current approaches rarely address the work environment as learning context, and thereby do not account for its influences on learners and their learning behaviors.

Thus, in this paper, we seek to bridge the identified research gaps in on-the-job qualification in governmental organizations. We present a novel on-the job qualification approach and show how front office employees could effectively be qualified on-the-job to become skilled consultants with means of IT. This paper builds on a first design cycle (Giesbrecht et al., 2014). While the first design cycle received mixed feedback from the users, we now report on the final successful design.

3 RESEARCH METHODOLOGY

To answer the research question, we followed a design science research approach as proposed by Peffers et al. (2007) consisting of six activities that should be followed when conducting a design science research project: 1) defining and justifying the research problem/question, 2) defining the objectives for a solution, 3) designing and developing the artifact, 4) demonstrating the artifact's use, 5) evaluating the artifact, and 6) communicating the results. The design science approach is well suited to solve such “wicked design problems”, characterized by changing requirements, an ill-defined environment, and a dependence upon human cognitive abilities (Hevner et al., 2004). Detailed information on the applied methodology can be found in (Giesbrecht, 2015, pp. 68–71). Details on the data collection are described in the evaluation section.

4 THE CASE OF CITIZEN ADVISORY SERVICES

Citizens nowadays increasingly perceive themselves more as customers rather than petitioners of public administrations. Accordingly, their expectations of service quality rise when seeking advice in public administrations' front offices (Accenture, 2005; Fountain, 2001; Schedler and Proeller, 2000). These citizens enter a novel social situation, like e.g., moving into a new town, and need to resolve all occurring government-related issues. They visit public front offices wanting to know, for instance, “how to find a public school for their children” or “how does the waste disposal system work”. Accordingly, employees require a broad range of advice-giving skills as well as cross-departmental knowledge to help citizens resolving their issues comprehensively. Current research literature recognized that front office employees lack the necessary skills to provide desired customer service level (cf. Andersen, 2006; Bretscher, 2009; Giesbrecht et al., 2011; Hielscher and Ochs, 2009; Schwabe, 2011). A number of researchers have described the goals citizen services should accomplish and the skills that public administration employees should have to perform these services (cf. Denhardt and Denhardt, 2000; Hummel and Krcmar, 2003; Leitner, 2006; Schuppan, 2010; Schwabe, 2011). However, they barely discuss how front office employees could actually develop these skills.

In the following paragraphs we highlight the facilitation-related deficiencies that today's front office employees in public administrations show, when giving advice to citizens. Finally, we derive specific solution objectives that should be achieved when developing corresponding qualification measures. We separate our findings into “process design”-related and “social interaction”-related findings, as these cover the relevant areas where consultants should master the skills to perform sound advisory service (cf. Section 2.1).

As discussed in section 2.1, research insights on the individual work practices of public front office employees are scarce and only isolated studies discuss them, like e.g., Hielscher and Ochs (2009) or Bretscher (2009). In prior research from the authors, we analyzed public front office employees' individual work

practices more thoroughly using a series of mystery shopping episodes as well as interviews with front office employees (c.f., Giesbrecht et al., 2011; Schwabe, Bretscher, et al., 2010; Schwabe, Schenk, et al., 2010). Therefore, the following analysis build especially on Giesbrecht et al. (2011) as well as Schwabe et al. (2010; 2010), but also includes insights from studies, which directly addressed employees' work practices in their front office work.

4.1 “Process design”-related deficiencies

In their face-to-face advisory encounters, today's front office employees restrict themselves to superficial information provision. That is, rather impersonal processing of transactions with hardly any structured advisory process. They do not define clear objectives for the advisory collaboration with the clients, impeded the creation of a conversation structure and miss the opportunity to lead citizens through the advisory sessions. As a result, employees switch unpredictably during their advisory sessions between exploring citizens' needs and seeking suitable solutions. They let clients lead the conversation and only answer their direct questions. Front office employees show little – if any – proactive behavior. They sometimes even opportunistically shorten the advisory process by restricting the advisory session to answering just one or two questions of the citizens and then close the conversation.

Applying tools to support process design: In their current practice, front office employees make very little use of available tools – analog or digital – to support their activities during advisory sessions with clients. Their usage is limited either to searching for and handing over standardized forms or brochures, or to accessing information from an electronic register via their desktop computer and verbally handing the information over. In doing so, the front office employees in their tool usage behavior withdraw from clients and exclude them from their actions. The applied tools thus become more of an information barrier (Rodden et al., 2003), thereby hampering creating process transparency (Nussbaumer et al., 2012).

This raises the question how to get front office employees to establish a distinct problem-solving process during their advisory sessions. Thus, we formulate a first solution objective that an adequate qualification approach should *enable consultants to establish a more structured and proactive advisory process (SO1)*.

4.2 “Social interaction”-related deficiencies

From the perspective of a skilled consultant, front office employees establish poor relationships with their clients: Interactions are restricted to receiving a client's concrete requests, for instance, “I want to register!”, and to delivering solution information verbally or via standardized documents. They do not create a participative environment, which is needed to establish a client-centered, personalized service. These findings have also been described by Hielscher and Ochs (2009), who showed that of 41 observed advisory sessions, only two were conducted in the desired “co-productive” manner, and only 17 were of a “supporting, client-centered” interaction-type.

Applying tools to support social interaction: The way front office employees today use available tools and information resources can hamper establishing close social bonds. When using information resources such as forms, brochures, or their desktop computer, front office employees withdraw from clients, focusing solely on the respective information resource without integrating the clients in their actions, and only “returned” to the clients to handing found information over. Thereby, available tools and information resources tend to become communication barriers between consultants and clients. Accordingly, front office employees’ tool usage behavior can increase information asymmetry between them and clients, which can severely hamper establishing an active dialog and a collaborative work environment (Prahalad and Ramaswamy, 2004).

This raises the question how to get front office employees to establish close relationships with advice-seeking citizens, integrating them as equal co-creators. Thus, we formulate a second solution objective: *to enable consultants to establish an open, participative work environment during advisory encounters with client (SO2).*

4.3 Knowledge deficiencies

In addition to moderating the advisory process and guiding the client through individual problem-solving activities, the front office employees must act as co-creators, and thereby advance the problem-solving process on the level of content. However, front office employees often lack the diversified domain knowledge to comply with these additional tasks. Providing comprehensive advisory service to clients constitute an enlargement of their service catalog, previously consisting of mere processing the clients’ requests. Yet, they are not prepared owing to a lack of organizational support, i.e. missing corresponding customized auxiliary means (cf. Lenk and Klee-Kruse, 2000; Schenk and Schwabe, 2011), or a lack of resources for the necessary training (Lenk and Schuppan, 2011). Therefore we formulate a third solution objective: *to enable consultants to search for, process, prepare, and integrate external domain knowledge into their facilitator-related behavior within the advisory encounters with clients (SO3).*

5 DESIGNING COUNSELING AFFORDANCES

Front office employees’ current work practices reveal their deficiencies concerning extending administrator-like behavior into becoming actual facilitators of the advisory service encounters. We argue that they need suitable support helping them comply with their facilitation-related tasks. We want to provide front office employees with suitably designed affordances encouraging them to show facilitator-like behavior. Furthermore, affordances should help to empower front office employees to become and act as skilled consultants who integrate expertise and domain knowledge from available information resources fluently. Therefore we describe in this section how they can be provided with appropriately designed *counseling affordances*, helping them to experience new work practices on-the-job, thereby initiating experiential

learning episodes. Counseling affordances build on the concept of affordances (see section 2.2) and describe the specifically designed functionalities of supporting (IT-) artifact that suggest its users to take facilitator-like actions.

In the following paragraphs, we describe how corresponding artifacts should be designed by developing six generic design principles that represent the basic concepts for equipping IT artifacts with facilitation affordances. We refer to the resulting artifacts as *counseling artifacts*.

Design principle 1 “*establish a shared information space*” (DPI) to afford establishing an open and participative work environment

In their role as facilitators, consultants should use activities, technology, and their skills to get the clients involved from the very beginning in co-creating the advisory session’s outcome (Bostrom et al., 1993). In this context, we propose supporting consultants in their corresponding tasks by *establishing a shared information space* in which consultants and clients have equal possibilities to monitor, access, and edit all tools and information resources. A corresponding shared information space helps consultants and clients to establish a common ground of their shared knowledge and beliefs, helping them to facilitate communication and cooperation (Carroll et al., 2006) and promote joint exploration and planning (Rodden et al., 2003). A shared information space can help reduce information asymmetries between the actors, which – according to Prahalad and Ramaswamy (2004) – hinder fruitful dialog between actors. In their studies, Nussbaumer et al. (2012) or Inbar and Tractinsky (2012) showed that establishing a shared information space can increase information transparency in the service encounter and help actors to monitor and comprehend each other’s actions (addressing SO1). Therefore, establishing a shared information space can encourage consultants and clients to intensify their collaboration and their mutual information exchange in an open, participative work environment (addressing SO2).

Implementation: To establish and enforce a shared information space throughout the advisory session, we used a 20-inch touchscreen device (Sony Vaio Tap 20) as physical medium of the *CitizenExplorer*. Furthermore, we positioned consultants and clients in a 90° to 135° degree angle in front of the device, as depicted in Figure 5.1. Within this physical setting, all participants could monitor the screen and were also enabled to interact with the artifact. Ultimately, a physically established shared information space should encourage consultants to create an open, participative work environment, actively including clients in all problem-solving activities.



Figure 5.1: Physical setup in an advisory session supported by the CitizenExplorer as facilitation artifact (left: client; right: consultant)

Design principle 2 “provide connected problem-solving spaces” (DP2) to afford creating a structured problem-solving process

In their role as facilitators, consultants need to ensure that an advisory session’s outcome will be established (Bostrom et al., 1993) and thereto actively direct a structured advisory process (Clawson et al., 1993). Consultants should choose appropriate problem-solving activities and guide their clients through them. To support and encourage consultants to comply with these tasks, we propose building the IT artifact on *problem-solving spaces*: For each phase of the problem-solving process, one space is provided. Consultants and clients always work in one space that encapsulates all information resources and tools necessary to carry out the corresponding problem-solving activity.

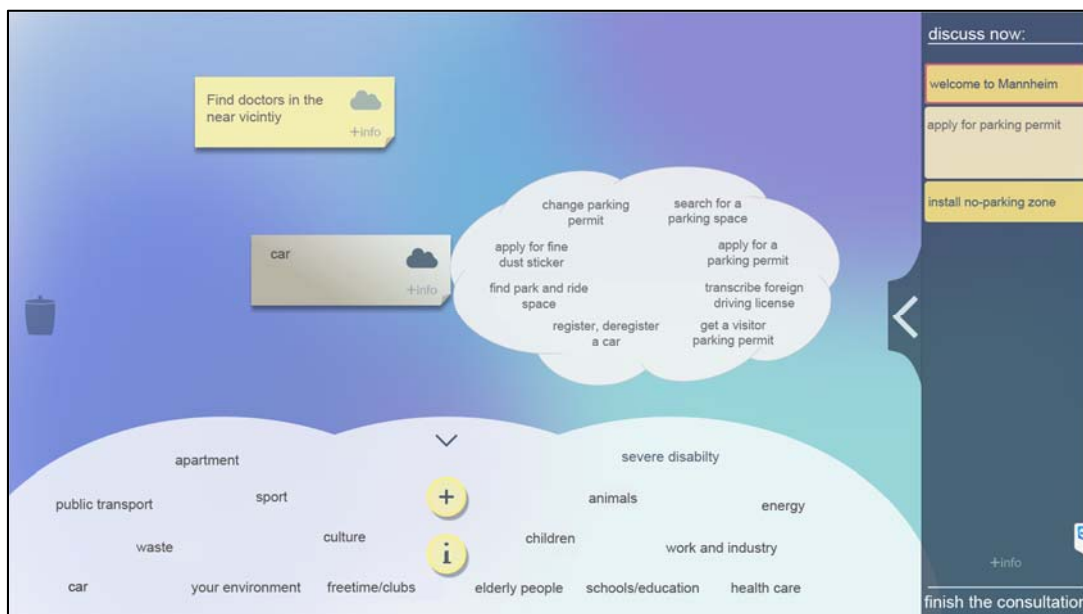
Furthermore, the consultants need to ensure that they and the clients could comprehend the individual steps in the problem-solving process (Clawson et al., 1993). To this end, switching from the needs elicitation phase to the solution-finding phase requires the consultants to moderate the change in process activities and concurrently transfer the problem information, i.e. the elicited problems, comprehensibly into the subsequent problem-solving phase. Thus we complemented the spaces concept with a connecting element that the needs elicitation and the solution-finding spaces share as common component and that connects them on an informational level.

Within a space, consultants can use the entire inventory, i.e. tools and information resources, to adapt the individual problem-solving activity to the client’s needs. The room metaphor is well known in CSCW design to facilitate and structure interactions (Harrison and Dourish, 1996; Henderson Jr and Card, 1986; Schwabe and Krcmar, 2000). Providing different “rooms” or “spaces” can help to separate different collaborative activities and to provide different work contexts, e.g. divergent needs elicitation vs. convergent solution-finding (Schwabe and Krcmar, 2000). In this context, distributing the individual problem-solving

activities on different “spaces” can foster process transparency (Nussbaumer et al., 2012). Improving process transparency can help consultants to strengthen their control of the advisory process, as they could better understand the goals of the individual problem-solving activities and can better visualize the process (Grote et al., 2000).

Implementation: To implement the “spaces”-metaphor, we created separated screens to represent the individual process phases: problem-elicitation and solution-finding. Each screen contains all tools and information sources needed to complete the respective phase. On the problem-elicitation screen (cf. Figure 5.2 top), users can create individual memo cards to externalize a client’s problems and access a database of frequently discussed problems through a large tag cloud. On the solution-finding screen, users can access all tools and information resources to explore, discuss and ultimately choose solutions, e.g., by using a map for exploring location-related solution information (cf. Figure 5.2 bottom).

We implemented the connection between problem-solving spaces by a *transition area* – a user interface element that is shared by all screens (cf. Figure 5.2). This transition area can be used to put in memo cards from the left and to put solution information onto a memo card from the right. In practice, the two screens were rearranged to be side-by-side with the transition area in the middle. A user can wipe the screens from left to right (and back), and the transition area always remains visible. Therewith, the transition area should i) help to externalize transition activities by requiring users to fill the transition area with information (i.e. memo cards) before swiping, and ii) to facilitate process orientation by having information in the transition area constantly visible.



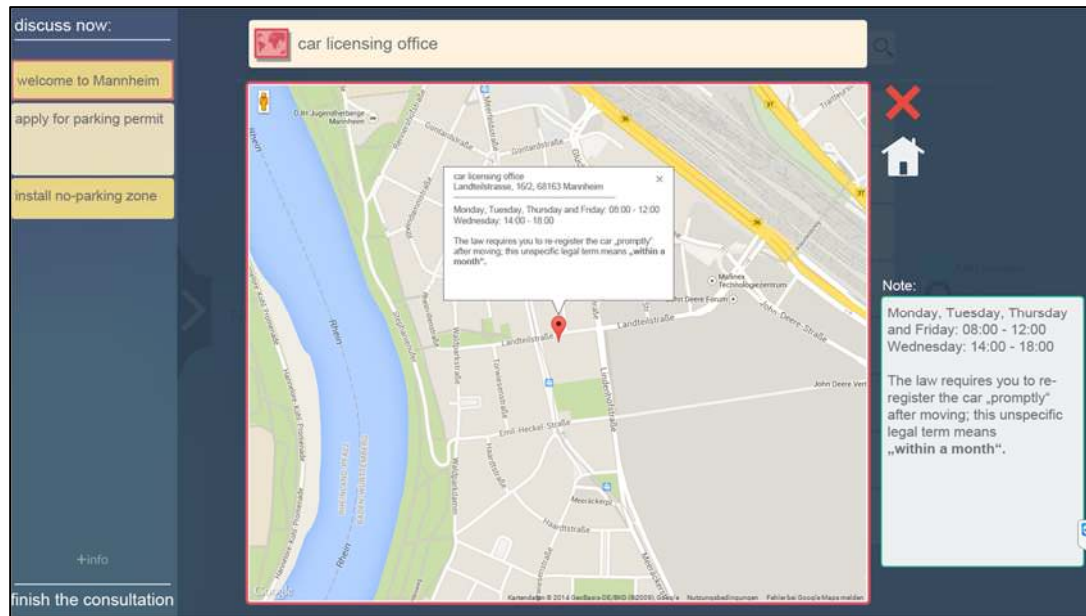


Figure 5.2: Design of the *CitizenExplorer*: needs elicitation screen (top) and solution-finding screen (bottom)

Design principle 3 “offer collaboration material and corresponding tools by using well-known metaphors” (DP3) to afford intuitive integration of tools and information resources

In their role as facilitators, the consultants should become *process guides* (Briggs and de Vreede, 2011) and actively influence the advisory encounter towards the initially defined outcome (Clawson et al., 1993). Therefore, they should appropriately integrate available tools and information resources into the consultant-client collaboration (ibid.). They need to know how to apply tools to structure information (e.g. when exploring a client’s problems), or to improve the information quality (e.g. when searching for solutions) (Briggs et al., 2009; Clawson et al., 1993). Thus, they should introduce appropriate collaboration material to establish effective collaboration (Shrage, 1992). Collaboration material comprises information (e.g. text documents or pictures) and collaboration tools (e.g. mindmaps) that all participants can use. It is important to enable consultants and clients, despite their differing tool usage experiences and educational backgrounds, to make intuitive use of the collaboration material, to help reducing information asymmetry (Pralhad and Ramaswamy, 2004). To this end, we propose using well-known metaphors when providing collaboration material. In the context of user interface design, metaphors allow users to apply knowledge from more familiar areas to understand a user interface’s function more easily, for instance, the “desktop” metaphor (Harrison and Dourish, 1996; Henderson Jr and Card, 1986). Using metaphors can encourage users to operate an available tool as desired. Therefore, we argue that IT artifacts that provide counseling affordances should *offer collaboration material and corresponding tools by using well-known metaphors* to afford intuitive integration of tools and information resources into consultant-client interactions.

Implementation: On the problem-elicitation screen, we provide the users with a “memo card”- as well as a “tag cloud”-metaphor (cf. Figure 5.2, top) to engage them in the collaboration pattern “generate” (Briggs et al., 2009). Furthermore, we provided distinct “empty areas” to stimulate users to think about problems and needs (cf. Figure 5.2 top; the blue area). In the solution-finding phase, we applied a “list”-metaphor to enable users to browse through available solution information and provide a detailed view, like a geographical map, to help “clarify” an individual solution (cf. Figure 5.2, bottom).

Design principle 4 “enwrap existing tools and information resources” (DP4) to afford seeing traditional tools in the context of collaborative work practices

In their role as facilitator, consultants should know the available tools and information resources – both analog (e.g. public school application form) and digital (e.g. electronic population register), and should appropriately integrate them into the advisory sessions (Clawson et al., 1993). Currently, consultants use tools and information resources predominantly on their own, without integrating clients into their actions. This behavior can easily promote information asymmetry between them and clients (Nussbaumer et al., 2012), and, understandably, lead to applied tools and information resources becoming communication barriers rather than communication support (Rodden et al., 2003). Therefore, we argue that consultants should be supported in getting acquainted with the available tools and information resources and experience their application within collaborative work practices. Therefore, we propose that an IT artifact that provides counseling affordances should *enwrap existing tools and information resources* and thus include them in consultant-client collaborations. Therewith, consultants should be encouraged to discover novel, collaborative usage types.

Implementation: We embedded information resources such as an internal knowledge database or the city’s official websites in the spaces using activity-matching visualizations. The internal knowledge database’s information, which was useful in the problem-elicitation phase, was visualized using a “tag cloud”-metaphor. Allowing consultants and clients to explore the database without explicitly accessing it (cf. Figure 5.2, top). In the solution-finding space, we embedded information resources and editing tools by providing a “data type matching” search interface, e.g., a geographical map for location-related information or a document/website viewer for text-based information (cf. Figure 5.2, bottom).

Design principle 5 “Provide forward awareness information” (DP5) to afford consultants to sustain an open, participative work environment while working with external information sources

Consultants often require information in advance regarding the enwrapped information sources, like e.g. information about the quality/fit of potential solutions, in order to guide the solution discussions with clients. In this context, we argue that consultants can benefit from being informed in advance on the “information resources’ behavior”, e.g. by receiving information about the quality of a search query’s results, in order to support planning and guiding the solution discussions. As Cadiz et al. (2002) as well as Dourish

and Bellotti (1992) pointed out, having corresponding awareness information can enhance coordination and productivity of the collaborating actors. Corresponding awareness information should be provided peripheral to the actors' primary activity (Gutwin and Greenberg, 2001; Norman, 1993). Accordingly, gathering awareness information on the “things to come” should not increase the consultants' cognitive workload or distract them from their interpersonal communications with clients (addressing SO2).

Implementation: We integrated a “*forward awareness traffic light*” feature on each memo card (cf. Figure 5.3): On each memo card a colored dot, placed on the lower left corner, notify users about the quality of the solutions that the system will suggest when switching to the solution-finding screen (green=high, yellow=medium, red=low quality/fit of information). For example, “register your car” would have a green dot on the memo card (see Figure 5.3) as suitable forms for the car registration process are available. Thus, consultants could use the forward awareness information to more actively guide the conversation in desired directions, for instance, by re-discussing a specific issue if the color red appears. Furthermore, simple visualizations helped the consultants to quickly assess the information resources' state with minimal distraction (Cadiz et al., 2002; Maglio and Campbell, 2000), allowing consultants to stay in their role as moderator of the problem-solving process.

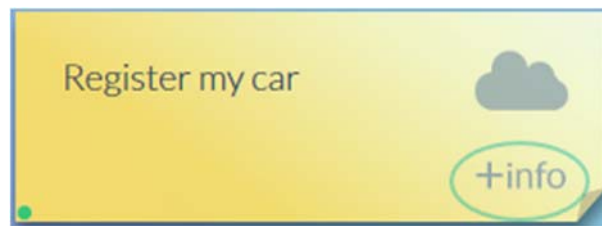


Figure 5.3: The memo card “register my car” and the forward awareness information signaling a good quality/fit of available solutions (green dot in the lower left corner)

Design Principle 6 “*Provide contextualized memory aid*” (DP6) to afford consultants to integrate domain knowledge from external information resources fluently and beneficially into ongoing discussions with clients (addressing SO3)

Informational resources should not only provide kernel information, like e.g. the frequently discussed problem topics in the needs elicitation phase. But they should also provide further context information to help actors to integrate the kernel information into their dialog, like e.g. providing examples of specific problem statements when a problem topic is selected. Having corresponding contextualized memory aids can help preventing cognitive workload to increase by allowing actors to offload some of their cognitive duties (Hollan et al., 2000). The provision of contextualized memory aids should help consultants to overcome their difficulties to integrate additional knowledge from external information sources into the verbal discussions with clients (addressing SO3). Context information can provide consultants with additional

memory cues (Stefanucci et al., 2007), thus giving them additional thematic connection points for integrating new knowledge suitably into ongoing discussions.

Implementation: We implemented the concept of *contextualized memory aid* in the tag cloud feature. We added a second informational level that provides, for each problem topic, the top eight written-out problem statements from previous advisory sessions. These additional problem statements provide consultants with additional perspectives on a problem topic, for instance, for the topic “children”: “find a school for my child” pointing to school-related issues and “find a pediatrician close by” pointing to health-related issues. With providing additional context information should help consultants to find better and more suitable connecting points to integrate the knowledge fluently into current discussions with clients (addressing SO3).

6 EVALUATION

We evaluated the *CitizenExplorer* prototype, equipped with counseling affordances, concerning the three solution objectives. Accordingly, we sought to show whether “learning with counseling affordances” could effectively empower front office employees on-the-job to become and act as skilled consultants, namely to establish a structured problem-solving process (SO1), to establish an open, participative work environment (SO2), and to search for, prepare, and integrate external domain knowledge into their facilitator-related behavior within advisory encounters with clients (SO3).

6.1 Evaluation design

In the evaluation, 12 consultants advised 35 “new in town”-clients in 84 advisory sessions. The 12 consultants were actual front office employees from the public administration of a major German city. The clients were recruited among the usual clients of public administrations from cities different to the one we worked with. They could thus take on the role of new inhabitants more easily and have a similar (low) prior knowledge on city-specific administrative issues and processes. The nine female and three male consultants were between 19 and 57 years old (average: 31.3) and the 22 female and 14 male clients were between 18 and 56 years old (average: 27). The test was conducted in a within-subject design, i.e. each participant (consultant or client) experienced at least one conventional advisory session and one artifact-supported advisory session, to report directly on the perceived differences. Consequently, 1) the consultants received a refresh on the basic objectives of citizens’ advisory services to ensure an equal state of basic knowledge, 2) each consultant conducted a conventional advisory session at their normal workplace as a baseline measurement (with an additional test client), 3) in a five-hour training, the consultants became acquainted with the *CitizenExplorer* artifact: they received instructions how to handle the tool with its features, and tried

them out in a role play¹, 4) the consultants conducted three artifact-supported advisory sessions and three conventional advisory sessions, in alternating order.

6.2 Data collection

Our test design allowed us to collect diversified data about consultants' (changing) behaviors. First, all advisory sessions were recorded on video. These recordings were analyzed by two researchers to identify the consultants' work behaviors regarding the three solution objectives. This comprised collecting the number of and the content of "process design"-related activities (e.g., proposing topics or asking questions to steer the discussion, giving explanations regarding the advisory process, or using tools to support the comprehensibility of the advisory process), as well as the number of and the content of "social interaction"-related activities (e.g., verbal invitations for participation, deepening questions to show empathy, or applying tools to promote equal access to information).

Second, consultants and clients provided quantitative feedback on their experiences in the different advisory sessions by answering a questionnaire. The questionnaire contained items on the participants' perceived satisfaction with the advisory service (Yield Shift Theory; Briggs et al., 2012) and their perceived relatedness (included in the IMI measuring instrument, Deci and Ryan, 2003). Furthermore, to supplement the observed (changed) work behaviors and the participants' qualitative rationales, the questionnaire contained items to assess the consultants' work-related skills, as perceived by the participants. To deepen our understandings of consultants' skills and how they changed, we applied a comprehensive measuring instrument, namely the KODEX^[1] measuring instrument (Heyse and Erpenbeck, 2007; Erpenbeck and von Rosenstiel, 2007), designed to assess, measure, and diagnose employees' work-related skills. All questionnaire items were rated on a 7-point Likert scale (7=pos. max.). Finally, items were added where the consultants could value the usefulness of the individual implemented counseling affordances i) absolutely (on a 7-point Likert-scale), and ii) relatively (by ranking them). Details of the questionnaire are described in the appendix.

Third, semi-structured interviews were conducted with all participants, consultants and clients, to learn about the underlying reasons and motivations for their behavior during the different advisory sessions. The interviews lasted, on average, 35 minutes with clients and 45 minutes with consultants. Details on the evaluation can be found in (Giesbrecht, 2015, pp. 99–102). Details of the interview guidelines are described in the appendix.

¹ This instruction using "Service Encounter Thinklets" turned out to be crucial (Giesbrecht and Schwabe, 2015), but is beyond the scope of this paper.

6.3 Results

6.3.1 General results

The evaluation's results showed that when working with *counseling affordances*, front office employees could improve their skills as consultants and provide a more satisfying advisory service. The consultants' perceived satisfaction with their work increased from 4.4 in the conventional to 5.5 in the artifact-supported advisory sessions (statistically significant difference; two-sided t-test, $T(11)=2.564$, $p=0.026$). And the clients' perceived satisfaction with the advisory sessions increased from 5.5 in the conventional to 6.2 in the artifact-supported advisory sessions (statistically significant difference; two-sided t-test, $T(35)=2.854$, $p=0.007$). Furthermore, the clients' ratings of the consultants' media skills did increase substantially between the two sessions (from 5.53 to 6).

6.3.2 "Process Design"-related skills as consultants (addressing SO1 and SO3)

Our observations revealed that all 12 consultants began to moderate the advisory process more actively (addressing SO1): Whereas in the conventional sessions, the consultants limited themselves to reactively answering clients' questions, they began to proactively ask questions and explain their actions to clients in the artifact-supported sessions. Therewith, they established an active dialog and directed the advisory process more purposefully. In this context, the consultants valued their ability to control and steer the advisory process substantially higher in the artifact-supported sessions than in the conventional ones (on average, 6.1 in the artifact-supported sessions, but only 5.4 in the conventional sessions; significant difference, two-sided t-test: $T(35)=2.335$, $p=0.025$). The consultants' behavioral changes were also recognized by the clients, who valued the consultants' methodical skills to adapt the advisory process significantly higher in the artifact-supported sessions than in the conventional ones (on average, 5.6 in the artifact-supported sessions, but only 5.2 in the conventional sessions; significant difference, two-sided t-test, $T(35)=2.11$, $p=0.04$). Furthermore, all 12 consultants started to moderate the transition between the advisory phases more explicitly. They performed transition activities more visible to the clients, while concurrently giving them elaborate explanations of each action (addressing SO2). The clients perceived the results from the artifact-supported advisory session as significantly more comprehensible (on average, 5.1 in the artifact-supported and 4.6 in the conventional sessions; two-sided t-test, $T(11)=3.823$, $p=0.003$). One client stated: "[in the artifact-supported session] I understood the solutions better [...] how they match my needs." The consultants provided rationales for their behavior, referring to the increased control of discussions as well as to keep the client involved. One consultant stated: "I discussed with the client the order in which we wanted to discuss the cards. [...] This way, I had better control of the discussion." Another consultant mentioned: "[...] therewith, the client was informed and could tell me possible concerns right away."

Applying tools to support process design: Clients generally perceived that in the artifact-supported advisory sessions, the consultants were significantly better able to integrate available media into the conversation

than in the conventional sessions (6 in the artifact-supported advisory sessions and 5.5 in the conventional sessions; two-sided t-test, $T(35)=2.112$, $p=0.042$). In the needs elicitation phase, the consultants applied the two-level tag cloud as collaboration material, actively inviting clients to participate in tool usage (on average, two verbal invitations in artifact-supported sessions, no verbal invitations in the conventional sessions). According to our observations of the artifact-supported sessions, 11 of 12 consultants started to explain their transition actions (between needs elicitation and solution-finding) explicitly to the clients while concurrently pointing to the “transition area” in the *CitizenExplorer* to support explaining how they prepared the elicited problems for the subsequent solution-finding phase. In their assessments, the consultants especially appreciated the transition area feature and valued its usefulness fairly high (on average, 6.58, whereas 7=pos. max.). In this context, the clients perceived the final advisory results in the artifact-supported session significantly more comprehensibly than in the conventional ones (see values above).

6.3.3 Social skills as consultants (addressing SO2 and SO3)

When working with counseling affordances, the consultants started to act as facilitators more constantly, integrating the clients stronger in their information search activities. In their feedback, four consultants explicitly highlighted the feature of the forward awareness traffic light as especially useful, helping them to act more self-confidently in front of clients and to integrate information more fluently in the solution-finding activities (addressing SO3). One consultant mentioned: “With the information from little lights, I could guide the solution discussion much better”. Another noted: “Having this advance information, I could act more confidently [...] explaining to the client what we do.” Only in five of the 36 artifact-supported advisory sessions we could observe breakdowns of the work relationship between consultants and clients coinciding with the consultant being intensively focused on the IT tool. In this context, the clients valued the perceived relatedness in the artifact-supported sessions substantially higher than in the conventional ones (on average, 5.4 in the artifact-supported sessions and only 4.6 in the conventional sessions; significant difference; two-sided t-test, $T(35)=3.171$, $p=0.003$). Furthermore, they appreciated the consultants’ changing behavior. They rated the consultants’ dialog and communication skills significantly higher in the artifact-supported sessions than in the conventional ones (6.1 in the artifact-supported sessions and 5.3 in the conventional sessions; significant difference: two-sided t-test, $T(35)=3.698$, $p=0.001$).

Applying tools to support social interaction: Compared to the conventional sessions, 11 out of 12 consultants in the artifact-supported sessions began to integrate available tools and information resources as essential part of their interactions with clients: In the needs elicitation phase, they began to use the two-level tag cloud to enrich discussions with clients with further problem information, while concurrently sustaining a close relationship with clients (addressing SO2). In this context, the consultants valued the two-level tag cloud as the most useful features provided by the *CitizenExplorer*. Furthermore, the consultants emphasizing that the additional context information considerably simplified integrating information into discussions.

One consultant described: “The smaller cloud especially helped me to match the needs of the clients with information in the tool.” The clients perceived the consultants in the artifact-supported sessions to have substantially better expert knowledge, compared to those in the conventional sessions (on average, 6.4 in the artifact-supported sessions, but only 5.75 in the conventional sessions; significant difference, two-sided t-test, $T(35)=3.489$, $p=0.001$). Analyzing the solution-finding phase in the observed advisory sessions revealed that eight out of 12 consultants adapted their problem discussions with the clients as soon as the forward awareness information about possibly available solutions occurred.

7 DISCUSSION

The evaluation’s results indicate that “working with counseling affordances” can substantially improve the advice-giving behaviors of front office employees on-the-job. Appropriately designed affordances will gently move consultants to try out novel behaviors during their service encounters and will thus start experiential learning episodes, resulting in improved advice-giving behavior (addressing the research question). Thus, blending counseling affordances into experiential learning revealed to be an effective on-the-job qualification measure. Figure 7.1 depicts our “learning with counseling affordances”-approach.

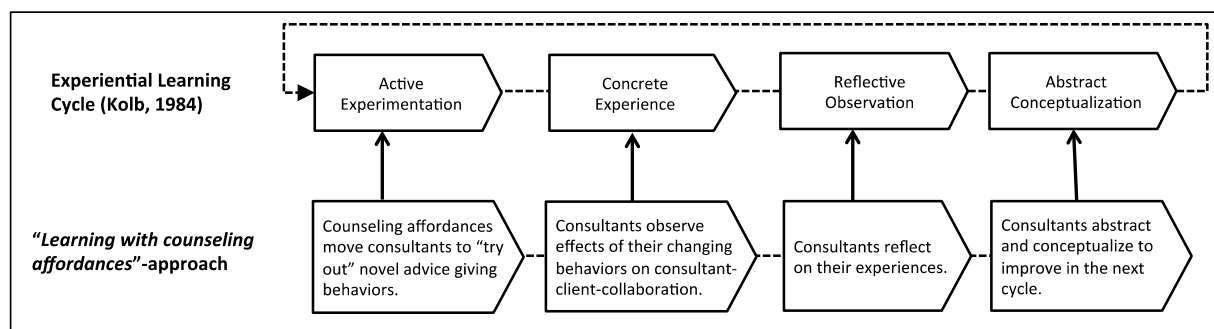


Figure 7.1: “Learning with counseling affordances”: blending counseling affordances into Kolb’s (1984) experiential learning cycle

When creating an on-the-job learning environment for front office employees, our study revealed that available tools and information resources should become an integral part of employees’ cognitive processes, helping them to offload cognitive tasks whenever practical (Hollan et al., 2000). Facilitating the usage of tools and information resources as collaborative material (DP3) and as contextualized memory aid (DP6), enwrapped within a shared information space (DP1 and DP4) revealed as suitable means to create a collaborative work environment in which employees become encouraged to integrate available means more beneficially and purposefully into their work. Thereby, the implemented counseling affordances help promoting the concept of IT as communication support in face-to-face service encounters, as Rodden et al. (2003) advocate in their work. More importantly, the implemented counseling affordances help employees acquire new knowledge and learn new applications of tools and information resources, thereby enhancing their

personal work-related skills. The implemented counseling affordances thus support creating effective learning opportunities in the workplace – as Billett (2004), Skule (2004), and Ellström (2001) have called for.

In the on-the-job learning environment, front office employees need to cope with their simultaneous tasks of giving sound advice (as their job), and concurrently enhance their work-related skills (improving their job performance). To this end, *task control* is essential for successful educational tasks, as Kirschner et al. (2004) demanded. In this context, our study revealed that providing forward awareness information (DP5) turned out to be a suitable means to help consultants gain better control on the advisory discussions.

Counseling affordances, in their role as educational affordances, can invite and guide front office employees to learn about novel advice-giving behaviors. To this end, the developed counseling affordances help make advisory practices “experienceable”. The affordances thus help learners to recognize novel practices and to realize their educational potential, which Lai et al. (2007) consider an essential precondition to start experiential learning. In our study, we highlighted the beneficial effects of following such an experiential approach for establishing effective on-the-job learning. While following the counseling affordances’ suggested action possibilities like a scaffold, consultants could learn about structured problem-solving (in terms of experiential learning), while performing in their jobs and providing superior advisory services to clients.

8 IMPLICATIONS TO RESEARCH AND PRACTICE

While traditional qualification measures focus on enabling employees to operate available tools, it is essential that service personnel also learn how to deliver the value of these tools to the customers, and eventually provide superior customer service. We could show that an artifact providing appropriately designed counseling affordances can lead front office employees to start experiential learning and, ultimately, improve their advice-giving skills (addressing the research question). Therewith, we could show how front office employees’ workplaces could be effectively transformed into learning environments, and employees could be provided with learning opportunities – as Billett (2004), Skule (2004) and Ellström (2001) have called for. By showing how counseling affordances should be designed and demonstrating how they can support initiating experiential learning on-the-job, we answered the call by Bower (2008) and Kirschner (2002) to deepen understandings of the relationship between affordances and learning and could directly contribute to this scientific discourse. In detail, we highlighted how affordance can be designed and provided in the workplace to front office employees to make learning material *experienceable*.

With our novel qualification approach for service personnel, applied in the context of citizens’ advice services, we continue the work by Leitner (2006), Schuppan (2010), or Hummel and Krcmar (2003), answering their call to highlight how public employees could concretely develop the necessary skills to work in modern public administrations. We therewith directly contribute to the current scientific discussion on public sector modernization. Furthermore, we can complement the organizational view of current scientific

discussions on public service provision from, e.g., Torres et al. (2005), Lenk and Schuppan (2011), or Lenk (2002), with the employees' perspective, their influence on modernization and change efforts and how to cope with occurring challenges.

Practitioners in public administrations can profit from our findings and apply the “learning with counseling affordances”-approach to qualify their front office employees on-the-job. Managers, responsible for service personnel's training, can benefit and use our on-the-job qualification measure to enhance effectiveness of existing concepts to transfer advisory-related knowledge and skills to their employees. We therewith also answer Prahalad and Ramaswamy's call for “socializing managers and changing managerial practices” to improve customer service experience (Prahalad and Ramaswamy, 2004, p. 13).

With presenting a novel approach for on-the-job qualification of front office employees, we could also highlight how organizations can use their tools and information resources to create an actual supporting and empowering work environment for their front office employees – as Danziger and Andersen (2002) have called for.

By developing higher-level design principles for counseling affordances, we argue that our approach can be transferred a) to other service encounters within public administrations, or b) from the case of citizens' advice services to other service domains such as financial advisory services or advisory services in travel agencies. However, while working with front office employees in a real-world context allowed us deep insights, our research approach also has limitations. Our study was conducted entirely in the public administration of one city in Germany. Work practices and organizational conditions may differ in other countries' public administrations and should be assessed before applying our on-the-job qualification approach. A further issue is the number of participating consultants in the evaluations. We were limited concerning employees participating in the evaluations as they must not interfere with daily work and thus the evaluations could only be conducted in a shorter period test setting, which did not allow us to make statements on organizational integration.

Finally, “learning with counseling affordances” turned out to be an effective approach to qualify service personnel on-the-job. In the resource-constrained organizational environment of public administrations' front offices, it provides managers with a suitable alternative to previous learning-from-others approaches, to instruct and support their employees in extending their knowledge and skills where it matters, within actual customer service encounters.

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APPENDIX

Questionnaire and interview guidelines of the evaluation

We present further details of the questionnaires and the interview guidelines used evaluation. As described in the paper, this study was conducted in the context of a larger research project. In this context, the measuring tools applied in the evaluations were rather comprehensive, covering different aspects of, for instance, organizational integration, workforce empowerment, or software design. Therefore, we restrict our description on the parts of the individual measuring tools relevant to this paper. The questionnaire items and interview guidelines presented are formulated for the clients' questioning, the consultant's questions were formulated analogously.

Questionnaire items

From Intrinsic Motivation Inventory (Deci and Ryan, 2003)	
Perceived relatedness	<ul style="list-style-type: none">• In the advisory session, I felt distant to the consultant. (R).• I really doubt that the consultant and I would ever be friends. (R)• I felt like I could really trust the consultant in the advisory session.• I'd like a chance to interact with the consultant more often.• I'd really prefer not to interact with the consultant in the future. (R)• I don't feel like I could really trust the consultant in the advisory session. (R)• It is likely that the consultant and I could become friends if we interacted a lot.• In the advisory session, I feel close to the consultant.
From Yield Shift Theory (Briggs et al., 2012)	
Satisfaction	<ul style="list-style-type: none">• I feel satisfied with the received advisory session.• I feel good about the received advisory session.• The received advisory session gives me a feeling of satisfaction.• I feel happy with the received advisory service.• When I think about the received advisory session, I feel positively toward it.
For measuring individual work-related competencies (using KODEX measuring tool; Heyse and Erpenbeck, 2007) (translated from German by the first author)	
Systematic-methodical skills to control and steer the advisory process	<ul style="list-style-type: none">• The consultant structure the advisory session actively and guide the advisory process.
Systematic-methodical skills to adapt the advisory process	<ul style="list-style-type: none">• The consultant tries to adapt the rigid advisory process to my needs.

Systematic-methodical skills to communicate information comprehensibly to others	<ul style="list-style-type: none"> The consultant was capable to communicate information comprehensibly.
Systematic-methodical skills to integrate media into the advisory process	<ul style="list-style-type: none"> The consultant possess detailed methodical knowledge how to use available media, like brochures, leaflets, Internet, etc., in the advisory session.
Dialog and communication skills	<ul style="list-style-type: none"> The consultant possess detailed methodical knowledge how to initiate and sustain dialog to clients.
Expert knowledge	<ul style="list-style-type: none"> The consultant possess detailed domain knowledge about advisory-relevant topics, for instance, registration, waste disposal system, etc.

Interview guidelines (building on the questionnaire)

For participants' general impressions and perceptions of the advisory sessions	
<ul style="list-style-type: none"> What are the largest differences between artifact-supported and conventional advisory session? What brings the largest added value, or disadvantage? What did facilitate the advisory session, what did hamper it? Which advisory session would you prefer? Why? In which advisory session did you understand and comprehend all the information necessary to start resolving your problems? Justify your decision. After which advisory sessions did you perceive yourself better prepared to start resolving the solutions you discussed with the consultant? Why? [The following questions repeat themselves for each counseling affordance to gather data about their individual effect on the consultant-client-interaction.] <ul style="list-style-type: none"> How did [insert implemented counseling affordances here] help you in the advisory session? Why? After your opinion, how did [insert implemented counseling affordances here] supported the consultant during the advisory session? Why? 	
Addressing solution objective 1 (translated from German by the first author)	
<ul style="list-style-type: none"> Regarding process and structure, how did the artifact-supported and conventional advisory session differ? Which advisory session was better structured? Why? In which advisory session did you perceive that the consultant guided you better through the individual process steps? Why? 	
Addressing solution objective 2 (translated from German by the first author)	
<ul style="list-style-type: none"> Regarding the creation of a personal, close relationship between the consultant and you, how did the artifact-supported and conventional advisory session differ? In which advisory session did the consultant integrate you better/stronger in the individual advisory activities? How did you perceive the collaboration with the consultants? How do both advisory sessions differentiate? In which advisory session could you comprehend the individual steps of the consultant better? 	

[1] Originally, Prahalad and Hamel (1990) in the field of management developed the concept of core competencies in organizations. In the German-speaking world, it has been the work by Erpenbeck and von Rosenstiel (2007) that has been most often used to research corresponding competencies and its components. Heyse and Erpenbeck (2007) translated their comprehensive competence concept into the KODEX instrument to assess, measure, and diagnose personal competencies.